



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/631,256	07/31/2003	Prakairut Tarlton	CML01259H	1617
7590 03/13/2009				
JAMES A. LAMB Motorola, Inc. - Law Department 1303 E. Algonquin Road Schaumburg, IL 60196			EXAMINER ALBERTALLI, BRIAN LOUIS	
			ART UNIT 2626	PAPER NUMBER
			MAIL DATE 03/13/2009	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/631,256

Applicant(s)

TARLTON ET AL.

Examiner

BRIAN L. ALBERTALLI

Art Unit

2626

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 May 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10-12-15 and 16 is/are rejected.
- 7) ☒ Claim(s) 2-9-13 and 14 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-8508)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, see Appeal Brief, filed 27 May 2008, with respect to the rejection(s) of claim(s) 1-16 under 35 U.S.C. 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Lei et al. (U.S. Patent 6,006,183) and Hoory et al. (U.S. Patent 6,785,649).

Additionally, the objection to the title is withdrawn.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 10-12, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lai et al. (U.S. Patent 6,006,183), in view of Hoory et al. (U.S. Patent 6,785,649).

In regard to claim 1, Lai et al. disclose a method for a spoken language system, comprising:

generating a recognized sequence of words from a sequence of received spoken words (a recognition function translates an input acoustic signal to text, column 3, lines 25-27);

assigning a confidence score to each word in the recognized sequence of words (each recognized word is assigned a confidence score, column 3, lines 30-37); and

adjusting nominal visual properties of words in a presentation of the recognized sequence of words, the adjustment performed according to the confidence score of each word (the attributes of the text of each recognized word are adjusted based on the confidence score of each word, column 3, lines 45-49).

Notably, Lai et al. disclose the attributes applied to the text include font type, bold, italics, size, etc. (column 3, lines 57-61).

However, Lai et al. do not disclose adjusting nominal acoustical properties in a presentation of words.

Hoory et al. disclose a method for adjusting nominal acoustical properties in a presentation of words (Fig. 6), wherein the attributes of a text (font, bold, italics, etc.) are analyzed and the nominal acoustical properties of a presentation of the textual words are adjusted based on the attributes of the text (the pitch, rate, volume, etc. of output synthesized speech is adjusted based on the attributes of the input text, column 9, line 58 to column 10, line 18).

Thus, each element claimed is present in Lai et al. and Hoory et al., the only difference between the claimed invention and the prior art being the lack of actual combination of the elements in a single prior art reference. That is, speech input to the

method of Lai et al. would be transcribed to text, each word of the text having an attribute based on the assigned confidence score for that word. The text with added attributes output from Lai et al. could be input to the method of Hoory et al., and the method of Hoory et al. would adjust the nominal acoustical properties of the output speech based on the textual attributes for each word. Since the textual attributes of each word were based on the confidence score assigned by the method of Lai et al., the adjusted acoustical properties of the words output by the method of Hoory et al. would thus be based on the confidence score of each word.

Clearly, one of ordinary skill in the art at the time of invention could have combined the methods of Lai et al. and Hoory et al. by simply applying the output text of Lai et al. as input to the method of Hoory et al. Furthermore, one of ordinary skill in the art at the time of invention would have recognized that the resulting combination would output speech with varying acoustical properties based on the confidence scores assigned to each word by the method of Lai et al.

In regard to claim 10, Lai et al. disclose modifying a nominal value of one or more of a set of visual features for a word having a confidence value outside a normal range (default textual attributes are applied if the confidence value applied to a word is above or below a set threshold, column 3, lines 37-44).

Following the reasoning applied to claim 1, above, the combination of Lai et al. and Hoory et al. would therefore modify the acoustical features for a word having confidence scores outside a normal range. That is, the textual output of Lai et al. would

only by modified if the confidence value was outside a normal range. When the text was then input to the method of Hoory et al., the nominal acoustical properties of the output speech would thus be modified only for words having a confidence value outside a normal range.

In regard to claim 11, in the combination applied to claim 10, above, Hoory et al. disclose the set of acoustical features (changes in pitch, rate, volume, and energy, sibilance, clarity, and accent, column 10, lines 8-17) comprises interword pause (changing the speech rate would necessarily increase/decrease interword pauses), duration (speech rate), pitch range (pitch), intonational contour (accent), intensity (volume), phonation type (sibilance), and precision of articulation (clarity).

In regard to claim 12, in the combination applied to claim 10, above, Hoory et al. disclose that the acoustical modifying (changes in pitch, rate, volume, and energy, sibilance, clarity, and accent, column 10, lines 8-17) comprises at least one of: increasing at least one of the interword pause (increasing the speech rate would necessarily increase interword pauses), the duration of the word (increasing the speech rate would also increase the duration of each word), the pitch range of the word (increase pitch), the loudness of the word (increase volume); and

decreasing at least one of the interword pause (decreasing the speech rate would necessarily decrease interword pauses), the duration of the word (decreasing the

speech rate would also decrease the duration of each word), the pitch range of the word (decrease pitch), and the loudness of the word (decrease volume).

In regard to claim 15, Lai et al. disclose a spoken language system (Fig. 1), comprising:

a recognition component that generates a recognized sequence of words from a sequence of received spoken words (a recognition function translates an input acoustic signal to text, column 3, lines 25-27), and assigns a confidence score to each word in the recognized sequence of words (each recognized word is assigned a confidence score, column 3, lines 30-37); and

a presentation component that adjusts nominal visual properties of words in a presentation of the recognized sequence of words, the adjustment performed according to the confidence score of each word (the attributes of the text of each recognized word are adjusted based on the confidence score of each word, column 3, lines 45-49).

Notably, Lai et al. disclose the attributes applied to the text include font type, bold, italics, size, etc. (column 3, lines 57-61).

However, Lai et al. do not disclose adjusting nominal acoustical properties in a presentation of words.

Hoory et al. disclose a system for adjusting nominal acoustical properties in a presentation of words (Fig. 6), wherein the attributes of a text (font, bold, italics, etc.) are analyzed and the nominal acoustical properties of a presentation of the textual words are adjusted based on the attributes of the text (the pitch, rate, volume, etc. of output

synthesized speech is adjusted based on the attributes of the input text, column 9, line 58 to column 10, line 18).

Thus, each element claimed is present in Lai et al. and Hoory et al., the only difference between the claimed invention and the prior art being the lack of actual combination of the elements in a single prior art reference. That is, speech input to the system of Lai et al. would be transcribed to text, each word of the text having an attribute based on the assigned confidence score for that word. The text with added attributes output from Lai et al. could be input to the system of Hoory et al., and the system of Hoory et al. would adjust the nominal acoustical properties of the output speech based on the textual attributes for each word. Since the textual attributes of each word were based on the confidence score assigned by the system of Lai et al., the adjusted acoustical properties of the words output by the system of Hoory et al. would thus be based on the confidence score of each word.

Clearly, one of ordinary skill in the art at the time of invention could have combined the systems of Lai et al. and Hoory et al. by simply applying the output text of Lai et al. as input to the system of Hoory et al. Furthermore, one of ordinary skill in the art at the time of invention would have recognized that the resulting combination would output speech with varying acoustical properties based on the confidence scores assigned to each word by the system of Lai et al.

3. Claim 16 rejected under 35 U.S.C. 103(a) as being unpatentable over Lai et al., in view of Hoory et al., and further in view of Majaniemi (U.S. Patent 6,393,403).

In regard to claim 16, Lai et al. disclose a spoken language system (Fig. 1), comprising:

a recognition component that generates a recognized sequence of words from a sequence of received spoken words (a recognition function translates an input acoustic signal to text, column 3, lines 25-27), and assigns a confidence score to each word in the recognized sequence of words (each recognized word is assigned a confidence score, column 3, lines 30-37); and

a presentation component that adjusts nominal visual properties of words in a presentation of the recognized sequence of words, the adjustment performed according to the confidence score of each word (the attributes of the text of each recognized word are adjusted based on the confidence score of each word, column 3, lines 45-49).

Notably, Lai et al. disclose the attributes applied to the text include font type, bold, italics, size, etc. (column 3, lines 57-61).

However, Lai et al. do not disclose adjusting nominal acoustical properties in a presentation of words.

Hoory et al. disclose a system for adjusting nominal acoustical properties in a presentation of words (Fig. 6), wherein the attributes of a text (font, bold, italics, etc.) are analyzed and the nominal acoustical properties of a presentation of the textual words are adjusted based on the attributes of the text (the pitch, rate, volume, etc. of output synthesized speech is adjusted based on the attributes of the input text, column 9, line 58 to column 10, line 18).

Thus, each element claimed is present in Lai et al. and Hoory et al., the only difference between the claimed invention and the prior art being the lack of actual combination of the elements in a single prior art reference. That is, speech input to the system of Lai et al. would be transcribed to text, each word of the text having an attribute based on the assigned confidence score for that word. The text with added attributes output from Lai et al. could be input to the system of Hoory et al., and the system of Hoory et al. would adjust the nominal acoustical properties of the output speech based on the textual attributes for each word. Since the textual attributes of each word were based on the confidence score assigned by the system of Lai et al., the adjusted acoustical properties of the words output by the system of Hoory et al. would thus be based on the confidence score of each word.

Clearly, one of ordinary skill in the art at the time of invention could have combined the systems of Lai et al. and Hoory et al. by simply applying the output text of Lai et al. as input to the system of Hoory et al. Furthermore, one of ordinary skill in the art at the time of invention would have recognized that the resulting combination would output speech with varying acoustical properties based on the confidence scores assigned to each word by the system of Lai et al.

Lai et al. and Hoory et al. do not specifically disclose the implemented system is a portable electronic device, comprising a radio transceiver that can establish a telephone call.

Majaniemi discloses a portable electronic device with speech recognition functionality that comprises a radio transceiver that can establish a phone call (Fig. 2, a mobile telephone including RF module 8, column 4, lines 36-59).

It would have been obvious to one of ordinary skill in the art at the time of invention to implement the systems of Lai et al. and Hoory et al. in a portable electronic device comprising a radio transceiver that could establish a phone call, because incorporating speech input/output into a mobile telephone allows operations to be performed more quickly than through a conventional telephone keypad, as taught by Majaniemi (column 1, lines 14-26).

Allowable Subject Matter

4. Claims 2-9, 13, and 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim 2, while Hoory et al. suggest adjusting the overall duration of a string of output words (and hence increasing the interword pause between each of the words), there is no suggestion to lengthen an interword pause proximate to a word having a low confidence score, so that the interword pause is recognizably greater than interword pauses used for words having a confidence score within a normal range. That is, the general lengthening of duration would increase the interword pauses

between words equally, rather than lengthening the interword pause proximate to a low confidence word so that it was recognizably greater than the interword pause for other words.

Regarding claim 13, Hoory et al. do not disclose or suggest changing the duration of particular syllables of a word determined by a lexical stress parameter of the syllable.

Regarding claim 14, Hoory et al. do not disclose or suggest using a phrase contour that conveys uncertainty within a group of words having a confidence score below the normal range.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Pickering (U.S. Patent 6,601,029) discloses a system that emphasizes particular input elements to respond to a user. Geurts et al. (U.S. Patent Application Publication 2002/0016712) disclose a system that adjusts output audio properties based on confidence levels. Ahlenius (U.S. Patent 6,993,482) disclose adjusting visual and auditory output based on confidence levels.
6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to BRIAN L. ALBERTALLI whose telephone number is (571)272-7616. The examiner can normally be reached on Monday-Thursday, 8 AM to 6:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Hudspeth can be reached on (571) 272-7843. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David R Hudspeth/
Supervisory Patent Examiner, Art Unit 2626

BLA 3/11/09